What is claimed is:

1.A rechargeable lithium ion battery which is capable of using as an energy source for a vehicle, comprising:

(a)a positive electrode comprising:

a collecting electrode; and

an active material layer which is formed on the collecting electrode, contains a positive electrode active material,

wherein thickness of the active material layer is at a range of 20 – 80 μm;

particle diameter of the positive electrode active material is 5um or less; and

porosity of the active material layer is 50% or more,

(b)a negative electrode; and

(c)a non-aqueous electrolytic solution.

2. The rechargeable lithium ion battery according to claim 1,

wherein the thickness of the active material layer is at a range of 20 – 60 μm.

3. The rechargeable lithium ion battery according to claim 1,

wherein the active material layer has a porosity at a range of 50% to 60%.

4. The rechargeable lithium ion battery according to any of claims 1 to 3,

wherein the active material layer comprises of a plurality of active material layers having different porosities.

5. The rechargeable lithium ion battery according to claim 4,

wherein the porosity of the active material layer closer to the collecting electrode is lower.

6. The rechargeable lithium ion battery according to claim 1,

wherein the active material layer includes a first active material layer formed on the collecting electrode and a second active material layer formed on the first active material layer,

the first and second active material layers severally have thickness

at a range of 20 μm to 30 μm,

a porosity of the first active material layer is 30% or more and less than 50%, and

a porosity of the second active material layer is at a range of 50% to 60%.

7. The rechargeable lithium ion battery according to claim 1,

wherein the positive electrode active material is lithium manganese oxide.

8. The rechargeable lithium ion battery according to claim 1,

wherein the non-aqueous electrolytic solution has the concentration of electrolyte at a range of 1.0 mol/l to 3.0 mol/l.

9. The rechargeable lithium ion battery according to claim 1,

wherein the non-aqueous electrolytic solution has the concentration of electrolyte at a range of 1.5 mol/l to 2.5 mol/l.

10. The rechargeable lithium ion battery according to claim 1,

wherein the electrolyte is one of $LiPF_6$ and $LiBF_4$.

11.A rechargeable lithium ion battery which is capable of using as an energy source for a vehicle, comprising:

(a)a positive electrode comprising:

a collecting electrode; and

two active material layers which are formed on the collecting electrode, each of which contains a positive electrode active material with a different particle diameter and has a thickness at a range of 20 to 30 μm inclusively;

(b)a negative electrode; and

(c)a non-aqueous electrolytic solution.

12. The rechargeable lithium ion battery according to claim 11,

wherein the active material layer includes a first active material layer formed on the collecting electrode and a second active material layer formed on the first active material layer,

the first active material layer contains a positive electrode active material having a particle diameter of 0.1 μm or more and less than 5 μm, and

the second active material layer contains a positive electrode active material having a particle diameter at a range of 5 μm to 20 μm.

13. The rechargeable lithium ion battery according to claim 11, wherein the positive electrode active material is lithium manganese oxide.

14. The rechargeable lithium ion battery according to claim 11, wherein the non-aqueous electrolytic solution has the concentration of electrolyte at a range of 1.0 mol/l to 3.0 mol/l.

15. The rechargeable lithium ion battery according to claim 11, wherein the non-aqueous electrolytic solution has the concentration of electrolyte at a range of 1.5 mol/l to 2.5 mol/l.

16. The rechargeable lithium ion battery according to claim 11, wherein the electrolyte is one of $LiPF_6$ and $LiBF_4$.

17.A vehicle, comprising:

a rechargeable lithium ion battery, comprising:

(a)a positive electrode comprising:

a collecting electrode; and

an active material layer which is formed on the collecting electrode, contains a positive electrode active material,

wherein thickness of the active material layer is at a range of 20 – 80 um;

particle diameter of the positive electrode active material is 5um or less; and

porosity of the active material layer is 50% or more;

(b)a negative electrode; and

(c)a non-aqueous electrolytic solution.

18. A vehicle, comprising:

a rechargeable lithium ion battery, comprising:

(a)a positive electrode comprising:

a collecting electrode; and

two active material layers which are formed on the collecting electrode, each of which contains a positive electrode active material with a different particle diameter and has a thickness at a range of 20 to 30 μm inclusively;

(b)a negative electrode; and

(c)a non-aqueous electrolytic solution.